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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,472	07/24/2003	Matthew R. Libera	STEVENS 3.0-007	1312

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EXAMINER	
DICUS, TAMRA	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/626,472	LIBERA ET AL.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *17-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The 112s are removed due to Applicant's amendments.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1 (amended), 4-6, 7-10, 12, 16, and 36 (new) are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,828,096 to Boussie et al.

4. Boussie teaches a patterned polymer microgel dissolved in solvent THF (col. 10, lines 12-25, lines 42-62, inherently having a swelling distinguishing property (claim 9)) deposited in regions on a inorganic substrate in the form of a film of plastic or polymer or glass (col. 14, lines 40-53) (instant claims 1, 16). The polymer deposited in the regions are comprised of one (homopolymer) or more polymer molecules or copolymers inherently having the affinity for adsorption of protein because it is the same material and is a cross-linking polymer (col. 11, lines 5-45, instant claims 5-6, 8, 10 and 12). The deposited regions are in a finely-structured portions (sufficiently small, col. 9, lines 30-33) and spaced in lengths less than 10 micrometers, encompasses Applicant's range of less than one micron.

To claim 2, because Boussie teaches the polymer is deposited in a pattern and of different material (distinguishing property), the substrate has areas not supported by the film (col. 10, lines 40-45, col. 14, lines 1-68).

To claims 7 and 36, Boussie teaches using any wide variety of polymers, plastics, and Pyrex, (first and second) polymers (col. 14, lines 45-68) or different materials or polymers in arrays and mixed (col. 10, line 50, col. 11, lines 10-16, col. 12, lines 50-68, and col. 13, lines 43-47, one or more polymer). Boussie does not teach a multilayer film and that the layers adhere to each other by a bonding mechanism, however it would have been obvious to one having ordinary skill in to art to expect the polymer to adhere in this way because the polymers are the same. Further to repeat coating the film to form a multilayer film is duplication of parts. The mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 10-13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,828,096 to Boussie et al. in view of USPN 5,952,232 to Rothman.

7. Boussie essentially teaches the claimed invention.

8. Boussie teaches polymers is not critically limited to non-biological polymers and lists nucleic acid polymers DNA as an optional polymer (col. 11, lines 30-45). However, Boussie does not teach the inclusion of a protein, pH-sensitive hydrogel, or cell (instant claims 10-13 and 15).

9. Rothman teaches DNA molecules include proteins, pH sensitive hydrogels and microparticles (pH mircrogel equivalency) included as a composition for a delivery of the DNA into cytoplasm of a cell (Abstract, col. 5, lines 65-68, col. 6, lines 1-68, col. 11, lines 5-34, lines 60-68). The protein is included with the DNA to bind to cells. The combination helps to protect from degradation.

10. It would have been obvious to one having ordinary skill in the art to have modified the polymer of Boussie to include a protein, pH-sensitive hydrogel, or cell because Rothman teaches DNA molecules include proteins, pH sensitive hydrogels and microparticles (pH mircrogel equivalency) included as a composition for a delivery of the DNA into cytoplasm of a cell (Abstract, col. 5, lines 65-68, col. 6, lines 1-68, col. 11, lines 5-35, lines 60-68). The protein is included with the DNA to bind to cells. The combination helps to protect from degradation.

Response to Arguments

11. Applicant's arguments filed 06-02-06 have been fully considered but they are not persuasive.

12. Applicant argues that while Boussie teaches the regions and dimples teaching a region is having no smaller than 0.5 mm (500 microns) at col. 9, lines 35-38. However, at that citing,

Boussie does not say the region is no smaller than 0.5mm, but states it is less than 5 mm, less than 10 microns, which encompasses the new limitation "less than one micron".

13. Applicant argues that Boussie does not teach a submicron range, however, Applicant omitted that term from the claim, thus this issue is moot.

14. Applicant argues that Rothman relates to an intracellular delivery system and thus is not combinable. However, Rothman was used to teach the specific polymer used in hydrogels to protect from degradation and Boussie uses hydrogels as well. Thus the art is analogous and combinable.

15. All other arguments are moot in view of the new ground of rejection necessitated by amendment.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamra L. Dicus
Examiner
Art Unit 1774

September 21, 2006

RENA DYE
SUPERVISORY PATENT EXAMINER
A.U. 1774 9/22/06